

REMARKS

Applicant respectfully requests reconsideration of this application as amended.

As a preliminary matter, in the Office Action mailed December 7, 2004, the Examiner did not attach an initialed copy of the PTO-1449 form references that were mailed to the PTO on May 21, 2003. Additionally, in the Office Action mailed December 7, 2004, the Examiner did not attach an initialed copy of the PTO-1449 form references (Other Art – No Patent Literature Documents section) that were mailed to the PTO on January 2, 2003. As such, applicant respectfully requests that the Examiner indicate that these references have been considered and made of record. The Examiner also did not indicate the references on said PTO-1449 form were not in conformance with MPEP 609. As such, applicant respectfully requests that the Examiner indicate that these references have been considered and made of record.

Office Action Rejections Summary

Claims 23-27 have been rejected under 35 U.S.C. §112, first paragraph.

Claims 1-10 and 13-31 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Patent No. JP-05297323 of Takayuki (“Takayuki”) in view of U.S. Patent No. 4,701,012 of Kaiser (“Kaiser”).

Status of Claims

Claims 1-22, 26-27 and 30-31 are pending in the application. Claims 11, 18, 19, 26 and 30 have been amended to more properly define preexisting claim limitations. The amended claims are supported by the specification. No claims have been added. No new matter has been added. Claims 23-25 and 28-29 have been canceled, without prejudice.

Claim Rejections

Claims 23-27 have been rejected under 35 U.S.C. §112, first paragraph, as based on a disclosure that is not enabling. Claims 23-25 have been canceled and, therefore, it is submitted that the rejection with respect to claims 23-27 is moot. It is submitted that claims 26-27 as amended comply with 35 U.S.C. §112, first paragraph.

Claims 1-10 and 13-21 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Takayuki in view of Kaiser. It is submitted that claim 1 is patentable over the cited reference.

Claim 1 recites:

An apparatus, comprising:

a housing having a plurality of at least four ports, **each of the plurality of ports coupled to a corresponding one of a plurality of at least four fibers;**

a plurality of collimating lenses disposed within the housing, each of the plurality of collimating lenses to receive a light beam from a corresponding port of the plurality of at least four ports; and

a beamsplitter coupled to the plurality of collimating lenses to receive the light beam from each of the plurality of collimating lenses, the beamsplitter having a common optical aperture disposed on an outer surface area to simultaneously receive the light beams received from each of the plurality of collimating lenses

(emphasis added)

With regard to claim 1, the Office Action states:

With regard to claim 1, Takayuki discloses the invention as claimed –[a[n apparatus, comprising:

a plurality of ports (see Fig. 1) and a beamsplitter (id., 30, 31), the beamsplitter having a common optical aperture disposed on an outer surface area to simultaneously receive the light beams received from each of the plurality of collimating lenses (see Fig. 1)—**EXCEPT FOR** explicit teachings of the following additionally recited claim limitations: a housing having a plurality of ports, each of the plurality of ports coupled to a corresponding one of a plurality of at least four fibers; a plurality of collimating lenses disposed within said housing, each of the plurality of

collimating lenses to receive a light beam from a corresponding port of the plurality of at least four ports.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the apparatus of Takayuki with a housing, such provisioning being notoriously old and well-known in the optical apparatus art, for at least the purpose of protecting said beamsplitter, said plurality of ports, and said plurality of collimating lenses, a said plurality of at least four fibers, each of said later teachings being disclosed by Kaiser (viz., collimating lenses 12-16; at least four fibers (24-28), for at least the purpose of efficiently guiding polarized light through said apparatus.

(Office Action, 12/7/04, pp. 3-4)(emphasis added)

If the Examiner is relying on facts that are not of record as common knowledge to arrive at applicant's claim limitation noted above, then the **Examiner is respectfully requested to provide evidentiary support of such.** The Examiner's attention is directed to MPEP 2144.03(C).

Moreover, one of ordinary skill in the art would not be motivated to modify Takayuki in the manner purported by the Office Action because it appears that the multiplexing device of Takayuki does not utilize any fibers and, therefore, would not require any fiber coupled ports. In particular, the multiplexing device is used in a laser photoplotter that has self contained laser light sources 11 and 21. The light beams from lasers 11 and 21 are propagated by beam splitters 12 and 22 through free space to the multiplexing device's other components. Furthermore, the multiplexing device of Takayuki uses only laser 11 and 21 that are divided by beam splitters 12 and 22, respectively, to each produce four light beams. Therefore, for argument sake, even if Takayuki did utilize fibers and its device provided with a housing, only two fibers, and corresponding ports, would be utilized: one to propagate light from laser 11 and one to propagate light from laser 21.

In addition, Takayuki teaches only a single lens 40 in its multiplexing device and the Office Action has not provided any principle within the knowledge of the skilled

artisan that would have provided the motivation to modify the multiplexing device to include additional lenses in the manner purported by the Office Action. See *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000); MPEP 2143.01.

In contrast, claim 1 includes the limitation of “a housing having a plurality of at least four ports, each of the plurality of ports coupled to a corresponding one of a plurality of at least four fibers.” Therefore, applicant submits that claim 1 is patentable over the cited reference.

Given that claims 2-10 and 13-21 depend from claim 1, it is submitted that claims 2-10 and 13-21 are also patentable over the cited references.

It is submitted that no basis for rejection was provided for claims 11-12. It appears from the remarks in the office action that the examiner is rejecting claims 11-12 under 35 U.S.C. §103(a) as being unpatentable over Takayuki. It is submitted that claim 11 is patentable over the cited references.

Claim 11 recites:

An apparatus, comprising:

a housing having a plurality of ports, each of the plurality of ports to receive a corresponding fiber;

a plurality of collimating lenses disposed within the housing, each of the plurality of collimating lenses to receive a light beam from a corresponding port of the plurality of ports; and

a beamsplitter coupled to the plurality of collimating lenses to receive the light beam from each of the plurality of collimating lenses, the beamsplitter having a common optical aperture disposed on an outer surface area to simultaneously receive the light beams received from each of the plurality of collimating lenses, wherein the plurality of ports comprises first, second, third, and fourth input ports and first and second output ports, and wherein the beamsplitter is coupled to receive S-polarized light from the first and third input ports and P-polarized light from the second and fourth input ports, the beamsplitter to **combine, into the first output port, S-polarized light from the first input port with P-polarized light from the third input port, the beamsplitter to combine, into the second output port, S-polarized light from the second input port with P-polarized light from the fourth input port.**

(emphasis added)

The Office Action states:

With regard to claim 11, the combination discloses, as set forth above with respect to claim 10, the invention as claimed –**EXCEPT FOR** wherein said plurality of ports comprises third and fourth input ports, and wherein the beamsplitter is coupled to receive S-polarized light from the first and third input ports and P-polarized light from the second and fourth input ports, the beamsplitter to combine S-polarized light from the first input port with P-polarized light from the third input port, the beamsplitter to combine S-polarized light from the second input port with P-polarized light from the fourth input port.

The combination, however, does disclose first and second input ports, the S- & P-polarized components of light propagating therethrough/therefrom being combined (as depicted in Fig. 1 of Takayuki).

(Office Action, 12/7/04, pp. 6-7)(underlining emphasis added)

Applicant disagrees with the Office Action's assertions and respectfully submit that the Office Action's characterization of Takayuki is inapposite. As can readily be seen from an inspection of Figure 1 of Takayuki, the light beams exiting from the light separating surface 31 of beam splitter 30 are not combined but, rather, spatially separate from each other. More specifically, at total of 8 light beams are input to beam splitter 30 (4 light beams from 1st light source section 10 and 4 light beams from 2nd light source section 20) and a total of 8 light beams are output from beam splitter 30 to lens 40. Accordingly, the P polarized light beams from waveplate 14 are not combined with the S polarized light beams reflected from separating surface 31.

In contrast, claim 11 includes the limitation of “the beamsplitter to combine, into the first output port, S-polarized light from the first input port with P-polarized light from the third input port, the beamsplitter to combine, into the second output port, S-polarized light from the second input port with P-polarized light from the fourth input port.” Therefore, it is submitted that claim 11 is patentable over the cited reference.

Given that claim 12 depends from claim 11, it is submitted that claim 12 is also patentable over the cited reference.

Claim 22 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Takayuki in view of Kaiser. It is submitted that claim 22 is patentable over the cited references. The Office Action states:

With regard to claims 22 and 23 Takayuki discloses the invention as claimed—**EXCEPT FOR** wherein said prism of said apparatus has a common optical aperture coupled to said plurality of GRIN lenses to receive light from each of said GRIN lenses, and wherein each of said plurality of input light beams be spatially separated using said common aperture.

However, Kaiser discloses a plurality of lenses (12-16), and it would have been obvious to one having ordinary skill in the art at the time the invention was made both to have modified the apparatus of Takayuki such that its prism have a common optical aperture coupled to said plurality of GRIN lenses (well known in the fiber-optic art) to receive light from each of said GRIN lenses as well as spatially separate each of the plurality of input light beams using the common optical aperture, for at least the purpose of processing additional signals within said apparatus, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

(Office Action, 12/7/04, p. 7)

It is respectfully submitted that the Office Action has overlooked a limitation appearing in the claim. In particular, claim 22 includes the limitation of a “rhombic prism” that is not taught by a combination of the cited references and, therefore, it is submitted that claim 22 is patentable over the cited references. The Examiner is respectfully reminded about relying on facts which are not of record as common knowledge to arrive at applicant’s claim limitation without providing evidentiary support of such. See MPEP 2144.03(C).

Claim 26-27 and 30-31 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Takayuki in view of Kaiser. It is submitted that claim 26 is patentable over the cited references.

Claim 26 recites:

A method, comprising:

collimating at least four light beams by a single device having a common optical aperture; and

spatially separating each of the at least four light beams using the single device, wherein spatially separating comprises:

reflecting a S-polarized component of each of the at least four light beams; refracting a P-polarized component of each of the at least four light beams; and

propagating each S-polarized component of each of the at least four light beams towards a corresponding output port and propagating each P-polarized component of each of the at least four light beams to another corresponding output port.

(emphasis added)

In the multiplexing device of Takayuki, not all of the P-polarized and S-polarized components of each of the light beams are propagated out of the beam splitter 30 to lens 40. More specifically, $\frac{1}{2}$ wavelength plate 14 only propagates the P-polarized component of light beams from 1st light source 10. The S-polarized component of the light beams from 1st light source 10 are not used by the device and, in particular, are not propagated to an output port. In addition, it appears that the P-polarized component of the light beams from 2nd light source 20 are also not used by the device and not propagated to an output port. (Takayuki, Figure 1; paragraphs 0006-0008].

In contrast, claim 26 includes the limitation that each of the S-polarized components and P-polarized components of the light beams are directed to respective output ports. Therefore, it is submitted that claim 26 is patentable over the cited references.

Given that claim 27 depends from claim 26, it is submitted that claim 27 is patentable over the cited references.

For reasons similar to those given above with respect to claim 26, it is submitted that claims 30-31 are also patentable over the cited references.

In conclusion, applicant respectfully submits that in view of the arguments and amendments set forth herein, the applicable rejections have been overcome.

If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Daniel Ovanezian at (408) 720-8300.

If there are any additional charges, please charge our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 1/31, 2005



Daniel E. Ovanezian
Registration No. 41,236

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, CA 90025-1026
(408) 720-8300

FIRST CLASS CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450.

on 1/31/05
Date of Deposit

JUANITA BRISCOE
Name of Person Mailing Correspondence



Signature



Date